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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,300	01/25/2006	Ryo Suzuki	OGOSH42USA	2014

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HOWSON & HOWSON LLP 501 OFFICE CENTER DRIVE SUITE 210 FORT WASHINGTON, PA 19034		

EXAMINER	
LI, JUN	

ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
12/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@howsonandhowson.com

Office Action Summary	Application No. 10/566,300	Applicant(s) SUZUKI, RYO	
	Examiner JUN LI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. **Claim 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (JP09-260139) in view of Bates *et al.* (1992, Solid State Ionics, 52:235-242) and Watanabe (JP09-316630).**

Takeda teaches a perovskite oxide composition $\text{La}_{1-x}\text{A}_x\text{MnO}_z$ wherein A can be Ca, Ba or Sr and $0.05 \leq x \leq 0.5$, $2.7 \leq z \leq 3$ (CIm 1-3), which read onto the recited composition in the instant claim. Takeda further teaches a sputtering target such as a thin film can be formed by this perovskite composition via a sputtering technique (abstract, [00014]) and the crystal size of this compound is 10 nm-100 μm ([0007]) for a needed electrical resistance and magneto-resistive effect. It is to be noted that the range of x and z overlaps with the range of x and α in the instant claim and the crystal size also overlaps with the recited size in the claim, thus render a prima facie obviousness (See § MPEP 2144.05 [R-5] I).

Takeda is silent about the specific recited resistivity and relative density, and purity.

Bates teaches a pervoskite composition with formula such as $\text{La}_{1-x}\text{Sr}_x\text{CrO}_3$, $\text{Y}_{1-x}\text{Sr}_x\text{CrO}_3$ (where $\alpha=0$) (abstract, line 7 and Fig 2, page 237), $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ (page 236 last paragraph line 7) having a particle size 1-100nm (abstract, line 3), a density greater than 95% and 98% (page 237, under section 3 Air-sintering of chromites, first

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paragraph, line 8-9; first paragraph under section 3.2 and Fig 2; First line, page 239);

a resistivity much less than 10 Ωm (converted from electrical conductivity of Fig 6-8).

Bates further discloses electrical properties of the manganites are dependent upon processing conditions, grain size and /or uniform compositions (page 240 right column second paragraph). Bates also discloses particle size, crystalline structure and surface area of manganite particles can be controlled (page 236 last paragraph).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt probable processing condition to obtain a desired resistivity as shown by Bates to improve the sputtering target of Takeda because resistivity is a desired property and one of ordinary skill in the art can obtain a desired resistivity for this sputtering target's intended usage in solid oxide fuel cell as suggested by Bates (Introduction page 235).

With respect to the recited density and purity, Wantanabe teaches a sputtering target can be made with a relative density of 95-99%, and purity regulated $>4\text{N}$ and particle size less than 20 μm to prevent target cracking (abstract, claim 1,[0006], [0012]) via controlling pressure and sintering conditions. Wantanabe further discloses the sintered product is made to have a purity more than 4N or higher in order to prevent the growth of the grains in said sintered compact ([0011]) of the sputtering target while a high density sintered compact is good for making a high density sputtering target without cracking ([0004]-[0010]).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt the high purity and high density of the sputtering target as shown

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by Wantanabe to improve the sputtering target made from composition of $\text{La}_{1-x}\text{A}_x\text{MnO}_3$ as shown by Takeda in view of Bates. One of ordinary skill in the art would have been motivated to do so because controlling the sputtering target properties such as density, purity, particle sizes can minimize the cracking formation during a high power and high film formation sputtering process as indicated by Wantanabe ([0003],[0006], abstract, Clm1-3).

2. Claim 4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (JP09-260139) in view of Bates *et al.* (1992, Solid State Ionics, 52:235-242) and Watanabe (JP09-316630) as applied to claim 1, 5 above, and further in view of Dortmund (Phase transitions of MnO_3 compounds revealed by nonlinear magnetooptics, Applied Physics, B74, 2002:749-758).

Takeda in view of Bates and Watanabe is silent about the recited A element is Mg and Ra element is Sc or Ce, Pr rare earth etc. However, Bates already teaches substitution of A site element of rare earth element such as La and Y by alkaline earth element such as Sr, and Ca. Thus A element is a Mg element is just an obvious modification over the prior arts.

Dortmund teaches a perovskite composition with a general formula $\text{R}_{1-x}\text{A}_x\text{MnO}_3$ wherein A being alkaline earth ions and R being Sc, Y, Er, Tm, Yb, Lu (page 749 right column lines 1-2 and right column second paragraph lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt such perovskite compound as shown by Dortmund to modify the sputtering target of Takeda in view of Bates and Watanabe because such

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pervoskite composition provides unusual magnetic and electronic properties which can help making a desired final product, i.e. sputtering target and such composition also expands the sputtering target composition choices. Furthermore, combining known elements for predictable results is well within the scope of one ordinary skill in the art.

Response to Arguments

Applicant's arguments filed on 10/30/2009 have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, Takeda clearly teaches a general manganite composition with a formula $\text{La}_{1-x}\text{A}_x\text{MnO}_3$ clearly in the abstract and claim 2, examiner agrees that Mn contents can be less than 1, however, Takeda does NOT teach Mn content MUST always BE less than 1. As long as Mn can be equal to 1, Takeda teaches the recited limitation in the instant claims. In addition, Bates also teaches a similar manganite pervoskite composition similar as recited in the instant claims, Takeda already teaches using a similar manganite perovksite to form a sputtering target, it would have been obvious for one of ordinary skill in the art at the time of invention filed to adopt such similar manganites or chromites as shown by Bates to practice the sputtering target with expanded perovskite precursor choices for a desired final product and combining known elements for predictable results is also well known in

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the art too. As for the argued resistivity, Bates already teaches such resistivity. It is also noted the applied references teaches a substantially similar composition/product, thus similar properties such as resistivity is expected absent evidence to the contrary. Wantanabe teaches a sputtering target from a pervoskite composition with a high density, purity and size can help preventing crack, thus one of ordinary skill in the art would have been obvious to adopt such high density, purity and probable size sputtering target to minimize crack formation. Thus the recited subject matter is just an obvious modification over the prior arts.

It is noted that mere arguments without solid data for backing up is insufficient to overcome the rejections.

Conclusion

All the claims are rejected for the reasons of record.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUN LI whose telephone number is (571)270-5858. The examiner can normally be reached on Monday-Friday, 8:00am-5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUN LI/
Examiner, Art Unit 1793
12/02/2009

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793

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